Abstracts

A compact high performance W-band FMCW radar front-end based on MMIC technology

J.R. Lamberg, M.J. Gawronski, J.J. Geddes, W.R. Carlyon, R.A. Hart, G.S. Dow, E.W. Holmes and M.Y. Huang. "A compact high performance W-band FMCW radar front-end based on MMIC technology." 1999 MTT-S International Microwave Symposium Digest 99.4 (1999 Vol. IV [MWSYM]): 1797-1800 vol.4.

A compact W-band FMCW radar front-end designed for low cost using TRW MMIC and planar antenna technologies is described. 48 dBm effective radiated power was achieved using MMIC power amplifiers with a power output of 23 dBm and an antenna with 25 dB gain. System noise figure is less than 8 dB including antenna feed losses, transition losses and noise related to leakage signals and phase noise. The overall volume occupied by the radar front end is minimized by using 16 GaAs MMICs.

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